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A GRAND DESIGN SPIRAL GALAXY WITH AN  
INTERACTING COMPANION: N5194 and N5195

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We completed a paper on the X-ray emission of the Whirl Pool galaxy (NGC5194) and its companion NGC5195 which has been accepted to the Astrophysical Journal. This work was carried out with Dr. Anthony Marston, a NASA project JOVE Fellow, D. Elmegreen, B. Elmegreen, K Flanagan, and W. Forman.

We also analyzed our PSPC observation of the Sombrero galaxy (NGC4594) and have compared the properties of the hot X-ray coronae to that of the luminous elliptical galaxy NGC4636 and the faint, extended emission in the bulges of Cen A and M31. We have drafted a paper "X-ray Emission from the Bulges of Early Type Galaxies: A Study of the Cen A and Sombrero Galaxies" by Ruiz, Jones and Forman which we will submit to the Astrophysical Journal by the end of April.

With Natasha Hazell, an SAO Summer Intern from the REU program, we measured the X-ray surface brightness profiles and temperature profiles for a sample of bright elliptical galaxies and used these to determine the total mass and its distribution in these galaxies. A poster paper on these results by Hazell and Jones was presented at the January AAS meeting in Tucson, AZ.